

AMENDMENTS TO THE CLAIMS

This Listing of Claims replaces all prior versions, and listings, of claims in this application.

1.-60. (Canceled)

61. (Currently Amended) A method comprising:

advancing a cannula percutaneously through a blood vessel to a region of interest, the cannula having a proximal end, a distal end, and an exterior surface at or adjacent the distal end of the cannula axially coupled to a balloon,

inflating the balloon from a first diameter to a different second diameter that is at least equivalent to an inner diameter of a blood vessel to occlude the blood vessel at the region of interest;

infusing a treatment agent to the region of interest distal to the balloon during the occlusion of the blood vessel;

perfusing a blood and/or a treatment agent flow between a location in the blood vessel proximal to the balloon and the region of interest distal to the balloon.

62. (Original) The method of claim 61, wherein perfusing includes:

perfusing blood and/or treatment agent via a lumen extending through the cannula from a location proximal to the balloon to a location distal to the balloon, via a proximal hole through the exterior surface of the cannula and to the lumen at a location proximal to the balloon, and a distal hole through the exterior surface of the cannula and to the lumen at a location distal to the balloon.

63. (Currently Amended) The method of claim 61, wherein inflating includes inflating the balloon for a first period of time to occlude the blood vessel for the first period of time and perfusing includes deflating the balloon for a second period of time; and at least one more repetition of inflating, infusing, and deflating.

64. (Currently Amended) The method of claim 61, wherein perfusing includes:
retracting back a guidewire disposed through a guidewire lumen extending from the proximal end to the distal end of the cannula and exiting an opening in the cannula distal to a balloon, for a first period of time;

wherein retracting includes retracting a distal end of the guidewire from a location distal to at least one hole from the guidewire lumen through the exterior surface of the cannula and proximal to the balloon to a location proximal to the at least one hole to cause perfusion through the at least one hole.

65. (Original) The method of claim 64, further comprising advancing the guidewire to a location distal to the at least one hole to prohibit a blood and/or a treatment agent perfusion between a location in the blood vessel proximal to the balloon and the region of interest, for a second period of time, and repeating infusing, retracting and advancing at least once more.

66. (Original) The method of claim 64, wherein retracting includes retracting a distal end of the guidewire to control an amount of a blood and/or a treatment agent perfusion between a location in the blood vessel proximal to the balloon and the region of interest by adjusting the guidewire to extend or retract a distal end of the guidewire to a location amongst a plurality of the at least one hole to allow a blood and/or a treatment agent to perfuse between the holes and the lumen at a selected perfusion rate.

67. (Original) The method of claim 61, wherein infusing includes infusing a volume of a progenitor cell suspension including bone marrow-derived progenitor cells.

68. (Original) The method of claim 61, wherein inflating includes:
increasing an axial length of the balloon;
maintaining the inflation pressure on the inner diameter of the blood vessel.

69.-78. (Canceled)

79. (Previously Presented) The method of claim 61, wherein perfusing comprise perfusing the blood vessel coupled by human vasculature to a beating heart.

80. (Previously Presented) The method of claim 61, wherein perfusing comprise perfusing the blood vessel in a person having a beating heart.

81. (Previously Presented) The method of claim 61, wherein perfusing includes perfusing blood via a lumen extending through the cannula from a location proximal to the balloon to a location distal to the balloon, via a proximal hole through the exterior surface of the cannula and to the lumen at a location proximal to the balloon, and a distal hole through the exterior surface of the cannula and to the lumen at a location distal to the balloon.

82. (Previously Presented) The method of claim 61, wherein perfusing comprises perfusing a blood flow from a location in the blood vessel proximal to the balloon, to a location in the region of interest distal to the balloon.

83. (Previously Presented) The method of claim 63, wherein retracting includes retracting a distal end of the guidewire to the location proximal to the at least one hole proximal to the balloon, to allow the perfusion.